

REMARKS

Applicants have amended Claims 1-7 and 11-13 and have added new Claims 14-21. Support for the amendments and new claims are found in paragraphs 0013, 0014, 0016, and 0017 of the instant specification. Thus the Claims currently under consideration are Claims 1-7, and 11-21.

Claim Objections

The Examiner has objected to Claims 2-7 stating that Line 1 of each recites “A foam control composition” and it is unclear whether the claims are referring to the foam control composition of claim 1, and that for purposes of clarity, “A foam control composition” should be changed to “The foam control composition” for each of claims 2-7.

In accordance with the recommendation of the Examiner, Applicants have amended Claims 2-7 to recite “The foam control composition”. Applicants thus respectfully request the Examiner to withdraw the objection to Claims 2-7.

Claim Rejections - 35 USC § 103

The Examiner has rejected Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over L'Hostis et al (EP 1075863) in view of Hart (US 5,800,738), in further view of Chatterji et al (US 6,417,142).

The Examiner states that with respect to Claim 1, L'Hostis et al discloses a foam control composition [see foam control agents, 0010, line 1] comprising a liquid polyisobutene [0017, line 6], a branched siloxane resin [see non-linear siloxane 0019, line 1], a particulate filler which is inherently insoluble in the liquid polyisobutene [see hydrophobic fillers, 0027, line 1-0029, line 4], and an organic polyol ester [see esters of glycerol, 0034, line 13].

The Examiner also argues that, based on the disclosure of Hart, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a low molecular weight polyisobutylene, especially the preferred polyisobutylene having an average molecular weight of 320 as disclosed by Hart in the foam control composition of L'Hostis et al,

and that such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result.

The Examiner further states that though modified L'Hostis et al does not disclose an organic polyol ester which is a polyol substantially fully esterified by carboxylate groups each having 7 to 36 carbon atom, since L'Hostis et al discloses esters of glycerol as one of the components of the invention [0034, line 13] and glycerol tristearate is well known in the art as a non-toxic, environmentally safe component of defoaming compositions, as evidenced by Chatterji et al (col.3, lines 19-21), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used glycerol tristearate in the foam control composition of modified L'Hostis et al because of it's non-toxic and environmentally safe properties; such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result. The Examiner further states that glycerol tristearate is an organic polyol ester which is a polyol substantially fully esterified by carboxylate groups each having 18 carbon atoms.

Applicants believe that Claim 1, as amended, overcomes the rejection by the Examiner. Claim1 has been amended to recite: "A foam control composition comprising a liquid polyisobutene having a molecular weight in the range 200 to 1500, a branched siloxane resin, a particulate filler which is insoluble in the liquid polyisobutene, and a non-polar organic polyol ester having a melting point of 35 to 100°C selected from (i) a glycerol triester or a diester of a glycol which is esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 90% of the hydroxyl groups of the glycerol triester or diester of glycol are esterified, (ii) an ester of pentaerythritol or an ester of sorbitol esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 70% of the hydroxyl groups of the ester of pentaerythritol or ester of sorbitol are esterified, or (iii) mixtures of non-polar organic polyol esters having melting points of 35 to 100°C."

With regard to Hart, one skilled in the art would not have incentivized by the disclosure of Hart, to use the polyisobutylene disclosed therein, in silicone containing foam control compositions, as it is clear from the disclosure of Hart that the polyisobutylene is a

“replacement” for silicone based defoaming compounds not as a component in silicone based defoaming formulations (see Column 1, line 61 through Column 2, line 10 of Hart). Thus Hart would actually lead an artisan having common sense at the time of the invention away from the compositions of the instantly claimed invention.

The Examiner also admits that L’Hostis does not disclose the non-polar organic polyol ester having a melting point of 35 to 100°C component of the instant invention. The Examiner states that L’Hostis et al discloses esters of glycerol as one of the components of the invention [0034, line 13]. However the esters of glycerol disclosed in L’Hostis are clearly identified as “surfactants” (see the entire text of paragraph 0034 of L’Hostis). The surfactants are used to so that the foam control agents can be used in oil-in-water emulsion form (see [0033] of L’Hostis). In contrast, the organic polyol ester of the instant invention is required to be “non-polar” and has a melting point of 35 to 100°C. Nowhere in L’Hostis are non-polar polyol esters having a melting point of 35 to 100°C disclosed or taught.

L’Hostis actually teaches away from the present invention by disclosing that esters of glycerol in their invention are surfactants used to manufacture oil-in-water emulsions. The fact that the organic polyol ester of the invention is esterified and is non-polar, distinguishes it from “surfactants” in that as the organic non-polar polyol esters of this invention do not contain a hydrophilic group and thus are not “polarized”. In contrast, “surfactants” contain a hydrophilic molecule or portion of a molecule which is one that is typically charge-polarized and capable of hydrogen bonding, enabling it to dissolve more readily in water than in oil or other hydrophobic solvents (see the definition of “Surfactant” in the online free encyclopedia (Wikipedia)). Therefore clearly L’Hostis clearly does not disclose the organic non-polar polyol ester component of the instant invention. Furthermore, an artisan having common sense at the time of the invention, would not have reasonably anticipated using the glycerol tristearate of Chatterji as the missing component in the foam control compositions of this invention, especially in view of the unpredictability of the chemical arts.

Therefore applicants conclude that an artisan having common sense at the time of the invention would not have reasonably considered a foam control composition comprising a liquid polyisobutene having a molecular weight in the range 200 to 1500, a branched siloxane resin, a

Page 9 of 14

particulate filler which is insoluble in the liquid polyisobutene, and a non-polar organic polyol ester having a melting point of 35 to 100°C selected from (i) a glycerol triester or a diester of a glycol which is esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 90% of the hydroxyl groups of the glycerol triester or diester of glycol are esterified, (ii) an ester of pentaerythritol or an ester of sorbitol esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 70% of the hydroxyl groups of the ester of pentaerythritol or ester of sorbitol are esterified, or (iii) mixtures of non-polar organic polyol esters having melting points of 35 to 100°C as currently claimed.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03.

Therefore, the applicants request that the rejection under 35 U.S.C. §103 be withdrawn and the claims allowed to issue.

The Examiner has rejected Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over L'Hostis et al (EP 1075863) in view of Hart (US 5,800,738), in further view of Chatterji et al (US 6,417,142).

The Examiner states that Regarding claim 11, L'Hostis et al discloses a method of manufacturing a water dispersible foam control composition [0035, line1-2] comprising dispersing in a water dispersible carrier a foam control composition[0035, lines 2-4] comprising a liquid polyisobutene [0017,line 6], a branched siloxane resin[see non-linear siloxane, 0019, line 1], a particulate filler which is inherently insoluble in the liquid polyisobutene [see hydrophobic fillers, 0027, line 1-0029, line 4], and an organic polyol ester which is a polyol[see esters of glycerol, 0034, line 13].

The Examiner admits that L'Hostis et al does not disclose the liquid polyisobutene having a molecular weight in the range 200 to 1500, the use of low molecular weight liquid polyisobutene as foam control agent is well known in the art as evidenced by Hart, (col.1, lines 7-10) but argues that it would have been obvious to one of ordinary skill in the art at the time the

Page 10 of 14

invention was made to use a low molecular weight polyisobutylene, especially the preferred polyisobutylene having an average molecular weight of 320 as disclosed by Hart in the foam control composition of L'Hostis et al; such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result.

The Examiner further argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used glycerol tristearate of Hart in the foam control composition of modified L'Hostis et al because of its non-toxic and environmentally safe properties; such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result.

The Examiner also states that regarding claim 12, L'Hostis et al discloses a method of manufacturing a granulated foam control agent comprising depositing onto a particulate carrier [see zeolite, 0040, line 1 and 0055, lines 1- 3] a foam control composition [see foam control agent, 0055, line 1-3]] comprising a liquid polyisobutene [0017,line 6], a branched siloxane resin[see non-linear siloxane, 0019, line 1], a particulate filler which is inherently insoluble in the liquid polyisobutene [see hydrophobic fillers, 0027, line 1-0029, line 4], and an organic polyol ester which is a polyol[see esters of glycerol, 0034, line 13].

The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a low molecular weight polyisobutylene, especially the preferred polyisobutylene having an average molecular weight of 320 as disclosed by Hart in the foam control composition of L'Hostis et al; such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result.

The Examiner admits that L'Hostis et al does not disclose an organic polyol ester which is a polyol substantially fully esterified by carboxylate groups each having 7 to 36 carbon atom, since L'Hostis et al discloses esters of glycerol as one of the components of the invention [0034, line 13] and glycerol tristearate is well known in the art as a non-toxic,

environmentally safe component of defoaming compositions, as evidenced by Chatterji et al (col.3, lines 19-21), but argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used glycerol tristearate in the foam control composition of L'Hostis et al because of its non-toxic and environmentally safe properties; such combination would amount to nothing more than the use of a known element for its intended use in a known environment in order to achieve entirely expected result.

Regarding claim 13, the Examiner argues that L'Hostis et al discloses all the claim limitations as set forth above and further discloses the method further comprises depositing a water-soluble or water-dispersible binder onto the particulate carrier [see aqueous solution of a polycarboxylate binder polymer, 0055, lines 1-3].

Applicants have also amended independent Claims 11 and 12 to recite that the organic polyol ester of this invention is “a non-polar organic polyol ester having a melting point of 35 to 100°C selected from (i) a glycerol triester or a diester of a glycol which is esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 90% of the hydroxyl groups of the glycerol triester or diester of glycol are esterified, (ii) an ester of pentaerythritol or an ester of sorbitol esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 70% of the hydroxyl groups of the ester of pentaerythritol or ester of sorbitol are esterified, or (iii) mixtures of non-polar organic polyol esters having melting points of 35 to 100°C.” Applicants incorporate by reference the arguments for the above rejection of Claims 1-3 and 5-7 herein. Applicants believe that the instant invention has been clearly distinguished from L'Hostis, Hart, and Chatterji as discussed above. As stated more specifically above, L'Hostis does not disclose the organic non-polar polyol ester component of this invention and L'Hostis and Hart actually teach away from the foam control compositions of this invention.

Therefore applicants conclude that an artisan having common sense at the time of the invention would not have reasonably considered the methods of manufacturing a water-dispersible foam control composition as recited in Claim 11 nor a method of manufacturing a granulated foam control agent as recited in Claim 12, wherein the foam control comprises a liquid polyisobutene having a molecular weight in the range 200 to 1500, a branched siloxane

Page 12 of 14

resin, a particulate filler which is insoluble in the liquid polyisobutene, and a non-polar organic polyol ester having a melting point of 35 to 100°C selected from (i) a glycerol triester or a diester of a glycol which is esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 90% of the hydroxyl groups of the glycerol triester or diester of glycol are esterified, (ii) an ester of pentaerythritol or an ester of sorbitol esterified by carboxylate groups each having 7 to 36 carbon atoms and at least 70% of the hydroxyl groups of the ester of pentaerythritol or ester of sorbitol are esterified, or (iii) mixtures of non-polar organic polyol esters having melting points of 35 to 100°C as currently claimed.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03.

Therefore, the applicants request that the rejection under 35 U.S.C. §103 be withdrawn and the claims allowed to issue.

The Examiner has rejected Claim 4 under 35 U.S.C. 103(a) as being unpatentable over L'Hostis et al (EP 1075863) in view of Hart (US 5,800,738), in further view of Chatterji et al (US 6,417,142) as applied to claim 1 above, in further view of Grinschgl et al (US 6177124).

The Examiner argues that regarding claim 4, modified L'Hostis et al discloses all the claim limitations as set forth above and further inherently discloses the foam control composition wherein the particulate filler is a silica filler (col.7, lines 8-9) with an average particle size of from 0.5 to 30 urn (col.7 lines 24-25 and Sipernat D 10, col.11, line 5).

The Examiner admits that though L'Hostis et al does not explicitly disclose the average particle size of the silica filler being from 0.5 to 30 urn, the average particle size of Sipernat D 10 is explicitly disclosed by Grinschgl et al, as 5 um, this anticipates the average particle size as claimed (see mean particle size um 5, col.2, line 33).

Applicants incorporate by reference the arguments for the above rejection of Claims 1-3 and 5-7 herein. Applicants believe that the instant invention has been clearly distinguished from L'Hostis, Hart, and Chatterji as discussed above. As stated more specifically above, L'Hostis

Page 13 of 14

does not disclose the organic non-polar polyol ester component of this invention and L'Hostis and Hart actually teach away from the foam control compositions of this invention.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03.

Submitted herewith is a petition for a one month extension of time to respond to this Office Action. You are authorized to charge deposit account 04-1520 for any fees necessary to maintain the pendency of this application. You are authorized to make any additional copies of this sheet needed to accomplish the purposes provided for herein and to charge any fee for such copies to deposit account 04-1520.

Respectfully Submitted,
Dow Corning Corporation

/timothy j troy/
Reg. No. 36,951
Tel: 989-496-5533